

We Claim as Our Invention:

1. A 3-dimensional-model-processing apparatus for processing a 3-dimensional model appearing on a display unit on the basis of 3-dimensional-position information input from a 3-dimensional sensor, said 3-dimensional-model-processing apparatus
5 comprising:

a controller for setting an operating point or an operating area used as a position at which processing using a processing tool is to be carried out on said 3-dimensional model serving as a processed object appearing on said display unit as a position dependent upon the position of said processing tool and carrying out said processing
10 on said 3-dimensional model at said set operating point or said set operating area.

2. A 3-dimensional-model-processing apparatus according to claim 1, wherein said controller sets an overlap portion of said operating point or said operating area and said 3-dimensional model as a processing execution position.
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3. A 3-dimensional-model-processing apparatus according to claim 1, wherein said controller executes control to clearly display said operating point or said operating area on said display unit.

4. A 3-dimensional-model-processing apparatus according to claim 1, wherein:
20 said operating point or said operating area is allowed to be updated as a position dependent upon said processing tool by changing and/or re-setting said operating point or said operating area; and

said controller carries out, if said operating point or said operating area is
25 updated, said processing on said 3-dimensional model at said updated operating point or said updated operating area.

5. A 3-dimensional-model-processing apparatus according to claim 1, wherein said controller executes control to make said operating point movable, constraining
30 said operating point on positions on said surface of said 3-dimensional model being processed.

6. A 3-dimensional-model-processing apparatus according to claim 1, wherein:
said operating area is set as an area having a shape matching the shape of said
processing tool; and

5 said controller carries out processing according to the shape of said operating
area set as an area having a shape matching the shape of said processing tool on said
3-dimensional model.

7. A 3-dimensional-model-processing apparatus according to claim 1, wherein
said controller carries out processing on said 3-dimensional model on the condition
10 that an overlap portion of said operating point or said operating area and said 3-
dimensional model has been detected.

8. A 3-dimensional-model-processing apparatus according to claim 1, wherein
said controller carries out processing on said 3-dimensional model on the condition
15 that an overlap portion of said operating point or said operating area and said 3-
dimensional model has been detected and that a processing command has been
received from input means.

9. A 3-dimensional-model-processing method for processing a 3-dimensional
20 model appearing on a display unit on the basis of 3-dimensional-position information
input from a 3-dimensional sensor, comprising the steps of:

setting an operating point or an operating area used as a position at which
processing using a processing tool is to be carried out on said 3-dimensional model
serving as a processed object appearing on a display unit as a position dependent upon
25 said position of said processing tool; and

carrying out said processing on said 3-dimensional model at said set operating
point or said set operating area.

10. A 3-dimensional-model-processing method according to claim 9, further
30 comprising the step of setting an overlap portion of said operating point or said
operating area and said 3-dimensional model as a processing execution position.

11. A 3-dimensional-model-processing method according to claim 9, further comprising the step of displaying said operating point or said operating area on said display unit.

12. A 3-dimensional-model-processing method according to claim 9, wherein:
said operating point or said operating area is allowed to be updated as a position dependent upon said processing tool by changing and/or re-setting said operating point or said operating area; and
if said operating point or said operating area is updated, said processing on said 3-dimensional model is carried out at said updated operating point or said updated operating area.

13. A 3-dimensional-model-processing method according to claim 9, further comprising the step of executing control to make said operating point movable, constraining said operating point on positions on said surface of said 3-dimensional model being processed.

14. A 3-dimensional-model-processing method according to claim 9, further comprising the steps of:
setting said operating area as an area having a shape matching the shape of said processing tool; and
carrying out processing according to the shape of said operating area set as an area having a shape matching the shape of said processing tool on said 3-dimensional model.

15. A 3-dimensional-model-processing method according to claim 9, further comprising the step of carrying out processing on said 3-dimensional model on the condition that an overlap portion of said operating point or said operating area and said 3-dimensional model has been detected.

16. A 3-dimensional-model-processing method according to claim 9, further comprising the step of carrying out processing on said 3-dimensional model on the condition that an overlap portion of said operating point or said operating area and said 3-dimensional model has been detected and that a processing command has been received from input means.

17. A program-providing medium comprising:

a computer program to be executed on a computer system for processing a 3-dimensional model appearing on a display unit on the basis of 3-dimensional positional information input from a 3-dimensional sensor, the computer program comprising the steps of:

setting an operating point or an operating area used as a position at which processing using a processing tool is to be carried out on said 3-dimensional model serving as a processed object appearing on a display unit as a position dependent upon said position of said processing tool; and

carrying out said processing on said 3-dimensional model at said set operating point or said set operating area.